Transformations Day 2 – Notes Name: ANSWER KEY

1. **Graph quadrilateral *ABCD* with vertices *A*(0, 3), *B*(2, 3), *C*(3, 1), and *D*(2, 0).**

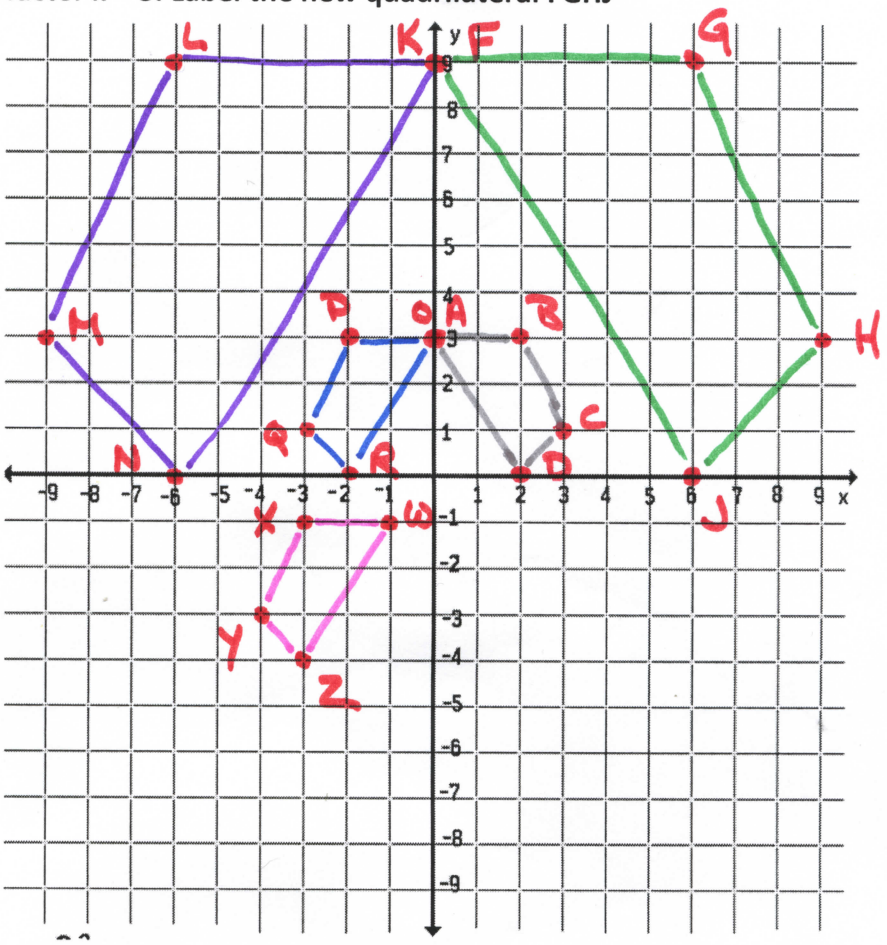
2. **Graph the dilation with a scale factor *k* = 3. Label the new quadrilateral FGHJ**

F (0 , 9)

G (6 , 9)

H (9 , 3)

J (6 , 0)



3. **Graph the reflection of FGHJ a across the *y-axis*. Label this quadrilateral KLMN and list the vertices below:**

K (0 , 9)

L (-6 , 9)

M (-9 , 3)

N (-6 , 0)

4. **Graph the reduction of KLMN with a scale factor $k = \frac{1}{3}$. Label this quadrilateral OPQR and list the vertices below:**

O (0 , 3)

P (-2 , 3)

Q (-3 , 1)

R (-2 , 0)

5. **Now translate OPQR *1 units left and down 4 units.* Label this quadrilateral WXYZ below and graph**

W (-1 , -1)

X (-3 , -1)

Y (-4 , -3)

Z (-3 , -4)

A summary of transformations on a coordinate plane

Transformation	How to change coordinates
Dilation	MULTIPLY BY SCALE FACTOR
Reduction	MULTIPLY BY SCALE FACTOR
y-axis reflection	X-COORDINATE IS THE OPPOSITE Y-COORDINATE IS THE SAME
x-axis reflection	X-COORDINATE STAYS THE SAME Y-COORDINATE IS THE OPPOSITE
Translation	X-COORDINATE: L (SUBTRACT) R (ADD) Y-COORDINATE: UP (ADD) DOWN (SUBTRACT)